

U.S. Patent Application Serial No. 09/926,662
Amendment dated October 31, 2003
Reply to OA of August 5, 2003

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (Currently Amended): A narrow band ultraviolet laser device comprising light shielding elements, each light shielding element having:

a light transmitting sections ~~each section~~ constituted by an opening in said light shielding element for transmitting laser light[[,]] ;

a light shielding sections section that ~~surround~~ surrounds said light transmitting ~~sections~~ section, to remove undesired laser light from an optical path and shape the laser light into a predetermined form[[,]] ; and

heating means, in addition to laser light of the laser device, for heating ~~an area in the vicinity of gases surrounding~~ said light shielding ~~elements~~ element to relieve ununiformity of the temperature of gases inside said light transmitting ~~sections~~ section.

Claim 2 (Previously Presented): The narrow band ultraviolet laser device according to Claim 1,

wherein said heating means also performs heating in a state in which the laser light is not

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oscillated.

Claim 3 (Currently Amended): The narrow band ultraviolet laser device according to Claim 1 or Claim 2, further comprising:

a laser controller for controlling laser oscillation; and
temperature measuring devices for measuring ~~temperature~~ temperatures of gases inside said light transmitting sections[[,] ; wherein:

said temperature measuring devices give information regarding said temperature of the gases to said laser controller[[,] ; and

~~wherein~~ said laser controller starts laser oscillation based on said information.

Claim 4 (Currently Amended): A narrow band ultraviolet laser device comprising ~~light shielding elements having~~

~~light transmitting sections for transmitting laser light, and
light shielding sections that surround said light transmitting sections, remove undesired laser light from an optical path and shape the laser light into a predetermined form, wherein~~

a laser chamber with a laser gas being sealed therein, light shielding elements which are in vicinities of light transmitting windows provided at both sides of said laser chamber and on an axis connecting both of said windows, and a light shielding element for shielding part of laser light transmitted through a prism inside a band-narrowing module, said light shielding elements

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respectively having: light transmitting sections for transmitting laser light, and light shielding sections that surround said light transmitting sections, remove undesired laser light from an optical path and shape the laser light into a predetermined form, wherein

spraying means are provided for relieving ununiformity of the temperature of the gases inside said light transmitting sections by spraying an inert gas to the vicinity of said light shielding elements and replacing the gases in said light shielding element area.

Claim 5 (Currently Amended): A narrow band ultraviolet laser device comprising ~~light shielding elements having~~

~~light transmitting sections for transmitting laser light, and~~

~~light shielding sections that surround said light transmitting sections, remove undesired laser light from an optical path and shape the laser light into a predetermined form, wherein~~

a laser chamber with a laser gas being sealed therein, light shielding elements which are in vicinities of light transmitting windows provided at both sides of said laser chamber and on an axis connecting both of said windows, and a light shielding element for shielding part of laser light transmitted through a prism inside a band-narrowing module, said light shielding elements respectively having: light transmitting sections for transmitting laser light, and light shielding sections that surround said light transmitting sections, remove undesired laser light from an optical path and shape the laser light into a predetermined form, wherein:

[[since]] said light shielding sections are formed of a material including at least any one

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of aluminum, aluminum alloy and copper,

the light shielding sections reflect the laser light at high reflectivity, thus causing less light absorption of the light shielding elements and less rise in the temperature of the light shielding sections, and

as a result, the light shielding sections relieve ununiformity in the temperature of the gases inside the light transmitting sections.

Claim 6 (Currently Amended): A narrow band ultraviolet laser device comprising light shielding elements having:

light transmitting sections for transmitting laser light[[,]]; and

light shielding sections that surround said light transmitting sections, to remove undesired laser light from an optical path and shape the laser light into a predetermined form [[,]]; wherein:

[[since]] said light shielding sections are formed of a solid material which transmits [[the]]any undesirable laser light not otherwise removed from the optical path, therefore gases do not exist in the laser light area, ~~thus causing~~ and no refraction index distribution caused by temperature distribution of the gases is caused[[,]]; and

said light shielding sections have a function of removing the undesired light from the optical path.

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Claim 7 (Currently Amended): The narrow band ultraviolet laser device according to Claim 6, wherein said ~~removing~~ function of removing undesired laser light is performed by a total reflection coating formed on surfaces of said light shielding sections.

Claim 8 (Currently Amended): A narrow band ultraviolet laser device comprising:
light shielding elements for removing undesired laser light from an optical path and
shaping laser light into a predetermined form[[,]]; and
light transmitting sections bordered by said light shielding elements, for transmitting the
laser light[[,]]; wherein:

said light shielding elements are formed of a material which transmits the laser light, thus
causing less light absorption of the light shielding elements and less rise in temperature of the
light shielding sections, and as a result, said light shielding elements relieve ununiformity in the
temperature of the gases inside the light transmitting sections[[,]]; and

said light shielding elements have a function of refracting the laser light to remove the
undesired laser light from the optical path.

Claim 9 (Canceled)

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Claim 10 (Currently Amended): A narrow band ultraviolet laser device comprising light shielding elements having:

light transmitting sections for transmitting laser light[[,]]; and

light shielding sections that surround said light transmitting sections, remove undesired laser light from an optical path and shape the laser light into a predetermined form[[,]]; wherein

[[since]] said light transmitting sections are formed of a solid which transmits the laser light, therefore gases do not exist in the laser light area, and refraction index distribution caused by the temperature distribution of the gases does not occur.